

## 2.0 Design Approach

### 2.1 Design Philosophy

Light appears and Red Rock Canyon speaks of adventure, wonder and discovery, haze flattens its contours to the ordinary, and darkness reduces its presence to mere cardboard. The light, then, is what makes this place exceptionally alive and beautiful.

Mojave extremes taunt us with juxtaposition: unrelenting oppressive heat and bitter cold winter winds; a downpour turns insufficient water to rage in seconds; and the very animals we treasure, destroy the landscape.

Our surroundings inform the design; the light, the climate, biology and a myriad of other forces speak to us about the form and orientation of the new school. Interdigitation of man built and natural is the key to communicating the sense that we are part of the land; to hurt it is to hurt ourselves, our friends and our future. This is a school that must teach by doing.

One starts where the damage has been done. A hundred years of building, parking, and gathering has been concentrated in a small part of the Oliver Ranch landscape. It is here where the majority of construction should occur. Trees, both native and exotic are a comforting view from highway 159 as nearby residents head to their homes. These shade providers offer protection for outdoor learning and can be phased to slowly become fully native and less water intense.

An educational imperative based upon "Children learning in the environment" dictates that shelter edges blur the distinction between inside and out. Walls give way to views while at the same time recognizing that diurnal temperature extremes can be actively managed to passively make our space comfortable.

Treasures abound: archeological sites, fascinating flora and fauna will all become visible and accessible while the students themselves become the guardians, and in turn teach their families and schoolmates about taking responsibility for the land.

Craig Childs, in his book the "Secret Knowledge of Water", says, "there are two ways to die in the desert: thirst and drowning. But, what about just right? Here water will take on new meaning. Through design we will celebrate its scarcity and teach its value.

Clark county 5<sup>th</sup> graders have informed us that sleeping spaces should be part and parcel of their learning experience. Uniformly, these students want to connect with each other as well as the night sky. Perhaps, this part of the design breaks new ground, burrowing into the side of a previously undisturbed hill; the building where nights are spent becomes one more strata. "Sky tubes" puncture the roof providing a view to the heavens.

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Inside to outside and vice versa, in a place of temperature and brightness extremes, invites creation of transition zones; the kind of in between place we build where it is neither stifling nor quite comfortable. Coming or going, eyes and skin have a moment to adjust.

Sound and smell are heightened at the before and after times. The architecture should not ignore non-visual beauty; the engaging of other senses.

Existing structures present a dilemma. A study has deemed them to be of no value and casual inspection makes clear that they are in a state of decay. But look closer, bits, parts and sections seem to glow. What better place to discuss culture, archeology and almost anything else than in or on a treasured remnant.

At Oliver Ranch, design will be of its time and place. Architecture and engineering will be modern, recognizing the attributes of materials and systems without trying to make them something they are not. Natural stone, wood and exposed concrete will be favored; their beauty heightened when contrasted to the technical clarity of metals and glass.

If, as we say, our mission is to teach children to take personal responsibility for the land and this responsibility is part of an overall philosophy of life, then, an honest expression of the elements of design is crucial to their understanding that land ethic and life ethic are not separable.

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### 2.2 Goals

Following are overarching design goals based upon thoughts articulated during workshop sessions melded with the philosophy expressed in section 2.1.

**Goal: Teach by doing; design, and operation of the school facility will be an interpretable example of appropriate site response created in a resource conserving and responsible way.**

**Goal: Recognize and incorporate both visual and non – visual aesthetic (i.e. smell, touch, temperature).**

**Goal: Design shall be modern; appropriate to both its time and place while expressing building materials and systems simply and honestly.**

**Goal: Create a flexible framework for learning which recognizes that change is constant (i.e. demographics, teaching philosophies, operational methodologies and technologies).**

**Goal: Consider capital budget and operational costs as a fundamental aspect of design.**

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**SEE, ALSO, GOALS AND OBJECTIVES:** Sections 3.4 (Site), 4.1 (People), 5.2 and 5.3 (Facility including sustainability), and 6.2 (Pedagogy)

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### 2.3 Codes and Regulatory Requirements

In accordance with BLM requirements the project shall comply with the:

- Applicable National and Local Building Codes\*
- OSHA requirements
- National Electric Code
- National Electrical Safety Code
- Uniform Mechanical Code
- National Fire Protection Association Standards
- American's with Disabilities Act
- Uniform Federal Accessibility Standards<sup>9</sup>
- CCSD Risk Management Standards<sup>9</sup>
- All Other Applicable Codes and Standards

\*Current building codes adopted by Clark County:

Model Energy Code (1992)

Clark County Amusement and Transportation Systems Code (1998)

International Building Code w/ amendments (2000)

International Residential Code w/ amendments (2000)

Uniform Mechanical Code w/ amendments (2000)

Uniform Plumbing Code w/ amendments (2000)

National Electrical Code w/ amendments (2002)

Southern Nevada Pool Code (2003)

Building Administrative Code (2004)

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<sup>9</sup>Per BLM - 7/9/2004

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### 2.4 Review and Approvals

The Design Oversight Committee of the CORE group, stakeholders involved in the Oliver Ranch Science School since inception, will, from time to time, be briefed on progress for informational purposes and/or to provide input on certain issues. Comments will be received by the Building Advisory Committee and considered.

Periodically, the Building Advisory Committee, a small group of knowledgeable individuals nominated by the BLM, will review the design for functionality and general conformance with the Program. This Committee will be in the role of the “Client” for the architect and “Adviser” to the Manager of the BLM’s Las Vegas Field Office.

The Las Vegas Field Office Manager’s representative, Angie Lara will advise the Contracting Officer, Gwen Moore through her representative, Pat Fleming of their position regarding design approval.

Pat Fleming has been designated Contracting Officer’s Representative (COR) for this project. Any changes in this designation would have to be made by Gwen Moore<sup>9</sup>. Pat will convey all final decisions.

Protocol dictates that Information will flow from Line and Space to the COR and then to Michael Reiland, the Las Vegas Field Office Project Coordinator and Vice Versa. Initially, it is expected that this process will be expedited by direct distribution keeping all parties simultaneously advised.

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### 2.5 Budget<sup>9</sup>

The Oliver Ranch Project, including the residential school and Wild Horse and Burro Facility, is being funded through SNPLMA. It was approved for approximately \$22.5 million in Round 4. This funding must cover not only construction of the physical facilities and infrastructure, but also all planning, design and administrative costs required for it. The project was subsequently nominated for an additional \$18 million in Round 5, primarily for on-site renewable energy systems, alternative transportation provisions, trails and teaching/interpretive venues throughout the site, and various other infrastructure enhancements. It was ranked number two priority of 32 submitted projects, and awaits Secretarial approval. Programming and planning will proceed with the assumption that the improvements in the Round 5 nomination will be designed and constructed.

<sup>9</sup>Per BLM - 7/9/2004

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### 2.6 Unresolved Issues

As we move forward, the Oliver Ranch School must finish final planning. Important areas that impact design and remain to be completed include:

- Name school – Finalize the name of the school. The temporary name, Oliver Ranch Science School is appearing on documents which may lead to confusion at a later time.
- Complete water feasibility study – if on site water supplies do not prove adequate, alternative sources must be explored. This will be a time consuming process which ultimately will affect the viability of this project.
- Create a master schedule – A master schedule is necessary to understand the critical path for integrating major milestones such as completion of design, start and finish of construction, furnishing the facility, hiring an operator, finalizing a business model, developing the initial curriculum, hiring administration and staff, procuring resource/teaching materials, training and scheduling of the first year of school operations in conjunction with the Clark County School District
- Hire an operating entity – An operating entity should be engaged with the idea that this operator will immediately hire a school director who will participate in decision making as a member of the building committee
- Prepare a Business Model/ Management/curriculum plan for the facility (including the research component) – this will provide us with information regarding need for on site staff housing, on site administration and maintenance support. If a model is created which does not envision these as resident positions space for this eventuality will be master planned, only. It is to be noted, however, that various operators or administrations may have differing operating philosophies. We should design a flexible facility, not a “kitchen for left handed chefs”
- Establish a School Board -This group will be primarily responsible for creating policy (and fund raising?). The Board should include decision makers from the Clark County School District as well as other stake holders.
- Create a formal use agreement or MOU with the Clark County School District – To ensure that the administration of the school district is fully committed to utilizing the Oliver Ranch facilities as envisioned by the CORE curriculum

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committee, some sort of agreement between the school district and the BLM should be formalized.

- Secure Round 5 funding – Certain aspects, primarily resource conserving, of the conceptual and schematic designs will be dependent upon round 5 funding for implementation.
- Consider whether a large amphitheater is required \*\* – Currently we have planned for an amphitheater to accommodate the complete school population. Is this valid? Should we re-allocate our resources and create several smaller venues i.e. outdoor gathering space or friendship circles associated with each living unit (seating capacity approx 40)?
- Determine availability of utilities
- Complete ground and aerial surveys
- Complete the NEPA Environmental Assessment

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\* Issue identified during CORE meeting 6/15/04